

WHAT IS CLAIMED IS:

1. An offset compensation circuit compensating for an offset voltage of a drive circuit outputting a potential according to an input potential, comprising:

first to N-th capacitors where N is an integer of at least two, said capacitors each having one electrode and the other electrode, the first capacitor having one
5 electrode connected to an input node of said drive circuit, and second to N-th capacitors each having one electrode connected to the other electrode of a preceding capacitor;

a first switch circuit supplying a predetermined potential to the input node of said drive circuit and connecting the other electrode of said first capacitor to an output
10 node of said drive circuit to charge said first capacitor to said offset voltage;

a second switch circuit successively selecting said second to N-th capacitors each for a predetermined period of time, supplying said input potential to one electrode of a selected capacitor and connecting the other electrode of the selected capacitor to the output node of said drive circuit to charge said first to N-th capacitors to said offset
15 voltage; and

a third switch circuit supplying said input potential to the other electrode of said N-th capacitor.

2. The offset compensation circuit according to claim 1, wherein said predetermined potential is said input potential.

3. The offset compensation circuit according to claim 1, wherein said predetermined potential is a reference potential.

4. The offset compensation circuit according to claim 1, wherein said second switch circuit connects respective other electrodes of said first to N-th capacitors commonly to the output node of said drive circuit to reset a voltage

5 between one electrode and the other electrode of said second to N-th capacitors each to 0 V, and thereafter successively selects said second to N-th capacitors each for a predetermined period of time to disconnect one electrode of a selected capacitor from the output node of said drive circuit and supply said input potential to one electrode of the selected capacitor, thereby charging said first to N-th capacitors to said offset voltage.

5. A drive circuit with offset-compensation capability, comprising:
a drive circuit outputting a potential according to an input potential; and
an offset compensation circuit recited in claim 1 compensating for an offset voltage of said drive circuit.

6. The drive circuit with offset-compensation capability according to claim 5, wherein

said drive circuit includes
a first transistor of a first conductivity type having its drain receiving a first power-supply potential, its source connected to said output node and its gate connected to said input node, and
5 a first constant-current source connected between said output node and a line of a second power-supply potential.

7. The drive circuit with offset-compensation capability according to claim 6, wherein

said drive circuit further includes a level shift circuit provided between said input node and the gate of said first transistor and supplying to the gate of said first transistor a potential obtained by level-shifting said input potential toward said first power-supply potential by a predetermined first voltage, and
5 said level shift circuit includes

a second constant-current source connected between a line of a third power-supply potential and the gate of said first transistor and

10 a second transistor of a second conductivity type having its source connected to the gate of said first transistor, its drain connected to a line of a fourth power-supply potential and its gate receiving said input potential.

8. The drive circuit with offset-compensation capability according to claim 7, wherein

5 said drive circuit further includes a third transistor of the second conductivity type inserted between the source of said first transistor and said output node and having its gate connected to said output node, and

 said level shift circuit further includes a fourth transistor of the first conductivity type inserted between the gate of said first transistor and the source of said second transistor and having its gate connected to the gate of said first transistor.

9. The drive circuit with offset-compensation capability according to claim 5, wherein

 said drive circuit includes

5 a transistor connected between a line of a first power-supply potential and said output node,

 a constant-current source connected between said output node and a line of a second power-supply potential, and

 a differential amplifier circuit controlling a gate potential of said transistor to allow a potential on said output node to be equal to said input potential.

10. A liquid-crystal display device comprising:

 a drive circuit with offset-compensation capability recited in claim 5; and

 a liquid-crystal cell having a light-transmission factor changing according to an output potential of said drive circuit with offset-compensation capability.